UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

TECNOMATIC S.p.A., Plaintiff, v. ATOP S.p.A. and MAGNETI MARELLI S.p.A., Defendants.	Case No. 18-12869 Honorable Laurie J. Michelson Magistrate Judge David R. Grand

ORDER ADOPTING THE SPECIAL MASTER'S REPORT AND RECOMMENDATION [97], GRANTING IN PART TECNOMATIC'S MOTION FOR CLAIM CONSTRUCTION [76], AND GRANTING IN PART ATOP'S MOTION FOR CLAIM CONSTRUCTION [77]

This is a patent dispute between three parties involved in the manufacture of electric motors. Plaintiff Tecnomatic S.p.A. alleges that Defendants ATOP S.p.A. and Magneti Marelli S.p.A. have infringed the claims of five patents for hairpin stator manufacturing equipment. The parties filed motions for claim construction, which the Court referred to the Special Master appointed in this case, Mr. Glenn Forbis. (ECF Nos. 71, 76, 77.)

After a claim construction hearing on November 18, 2020, Special Master Forbis provided a draft report and recommendation to the parties for their suggestions. (ECF No. 97, PageID.5940–5941.) Forbis then filed his final report and recommendation on February 23, 2021. (ECF No. 97.) The parties have filed objections and responsive briefing. (ECF Nos. 100, 101.) Their objections relate to the Special Master's construction of just one term, which implicates the scope of two patent claims. The Court, in addition to observing the claim construction hearing conducted by the Special Master, has reviewed all of the parties' briefing and the Special Master's report. Having done so, the Court adopts the Special Master's constructions in full.

I. Legal Standards

Under Federal Rule of Civil Procedure 53(f), a court shall review de novo all objections to a special master's conclusions of law and findings of fact, unless the parties stipulate to a different standard of review for certain factual findings. *See* Fed. R. Civ. P. 53(f)(3)–(4). Here the parties have agreed that the Court will review all findings of fact de novo. (ECF No. 71, PageID.1466). So here the Court will review objections to the Special Master's conclusions of law and findings of fact de novo.

"[T]he interpretation and construction of patents claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court." *Markman v. Westview Instruments, Inc*., 52 F.3d 967, 970–71 (Fed. Cir. 1995). "It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp*., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (internal citation and quotation marks omitted). "[T]here is no magic formula or catechism for conducting claim construction." *Id.* at 1324. "Nor is the court barred from considering any particular sources or required to analyze sources in any specific sequence, as long as those sources are not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence." *Id.*

Evidence in patent construction falls into two categories: intrinsic and extrinsic. Intrinsic evidence includes the patent claims, specification, and file history that "constitute the public record of the patentee's claim," on which "the public is entitled to rely" and through which a competitor may "ascertain the scope of the patentee's claimed invention and, thus, design around the claimed invention." *Vitronics Corp. v. Conceptronic, Inc*., 90 F.3d 1576, 1583 (Fed. Cir. 1996) (citing *Markman*, 52 F.3d at 978–79). Extrinsic evidence is evidence introduced "for the purpose of

litigation," such as expert testimony. *Id.* (citing *Southwall Tech., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed. Cir. 1995)).

"When construing claim terms, we first look to, and primarily rely on, the intrinsic evidence . . . which is usually dispositive." *Sunovion Pharm., Inc. v. Teva Pharm. USA, Inc*., 731 F.3d 1271, 1276 (Fed. Cir. 2013) (citations omitted); *see also Vitronics*, 90 F.3d at (citation omitted)."In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term." *Vitronics*, 90 F.3d at 1583. "In those cases where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper." *Id*.

"'The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history.'" *Starhome GmbH v. AT & T Mobility LLC*, 743 F.3d 849, 856 (Fed. Cir. 2014) (quoting *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)). "Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)).

Any other evidence is extrinsic. "Extrinsic evidence consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980. If the scope of the patent is ambiguous based on the intrinsic record, the court may consider extrinsic evidence. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999); *Vitronics*, 90 F.3d at 1583. But while extrinsic evidence

"may be useful to the court," it is "less reliable" than intrinsic evidence, and its consideration "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Phillips*, 415 F.3d at 1318–19.

Ultimately, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998).

II. Background

All parties manufacture automobile components. (*See* ECF No. 1.) The patents in this case relate to methods of manufacturing stators for electric motors. To oversimplify a bit, a stator generates a magnetic field and is made up of, among other things, wound copper wire; in electric motors, the stator's magnetic field turns a rotor located inside the stator's core. *Difference Between a Rotor and a Stator*, Circuit Globe, https://perma.cc/55RE-JHU4

Tecnomatic filed this action against ATOP and Magneti alleging infringement of five method patents for the manufacture of stators: U.S. Patent No. 7,941,910 (the '910 Patent); U.S. Patent No. 8,215,000 (the '000 Patent); U.S. Patent No. 9,300,193 (the '193 Patent); U.S. Patent No. 8,922,078 (the '078 Patent); and U.S. Patent No. 8,826,513 (the '513 Patent) (collectively, the "patents-in-suit"). (ECF No. 1.)

The patents-in-suit specifically concern the stator, which is the stationary piece of an electric motor. As Tecnomatic explains, the manufacturing process for a stator involves "dozens of copper conductor wires need to be accurately formed, carefully inserted into a metal cylinder (or 'stator core'), twisted to different angles, and electrically connected in order for the stator to function." (ECF No. 76, PageID.3141–3142.) The patents-in-suit cover several parts of this manufacturing process: a method to insert electrical conductors into the stator (the '910 Patent), a

method to bend the conductors into the desired shape after they are inserted (the ’000 and ’193 Patents), and another method to bend the conductors (different than that in the ‘000 and ‘193 patents) into the desired shape after they are inserted (the ’513 Patent).

In their initial briefing on claim construction, Tecnomatic and ATOP disputed 10 claim terms contained in these five patents. (*See* ECF Nos. 76, 77.) They submitted opening and responsive claim construction briefs and supporting exhibits (ECF Nos. 76, 77, 78, 81), a Joint Appendix to the briefs (ECF No. 75), a Joint Pre-Claim Construction Hearing Statement (ECF No. 86), and a Joint Claim Construction Chart (ECF No. 87). After the claim construction hearing on November 18, 2020, and an opportunity for the parties to make suggestions on the draft report and recommendation (ECF No. 97, PageID.5940–5941), the Special Master filed his report and recommendation for construction of the 10 claim terms on February 23, 2021. (ECF No. 97.) The parties do not object to nine of the recommendations; they have filed objections regarding just one term. (*See* ECF Nos. 100, 101.)

A. The Term “Lost Motion”

The parties object only to the Special Master’s recommended construction of the term “lost motion,” which implicates just two of the patents at issue: the ’000 and ’193 Patents. So the Court will address only those patents.

As the Special Master summarized (and the parties do not dispute), the ’000 Patent and the ’193 Patent both address methods to bend the conductors into a desired shape after the conductors have been inserted into the stator. This involves “bending the free ends of rectangular motor winding conductors to at least two different angles” using a bending fixture. (ECF No. 97, PageID.5969.) In simplified terms, the bending fixture contains multiple rings that have holes or “pockets” distributed around them for receiving the free ends of the winding conductors after they

have been inserted into the stator. Figure 2 (of both patent specifications) illustrates a portion of the bending fixture showing the rings 30, 32, 34 and 36 and the pockets 38 in the rings. (*See* ECF No. 75-3, PageID.1539; ECF No. 75-4, PageID.1550.) In a preferred embodiment, there are four rings, with rings one and three rotating relative to rings two and four. These rings are also known as "pocket members." (*Id.*)

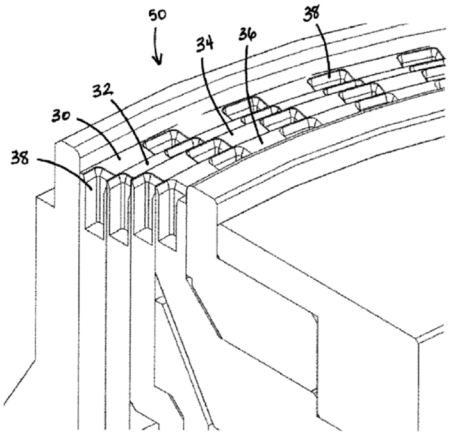

FIG. 2

The bending process has two steps. First, the conductors are inserted into the "pockets" around the circumference of the rings. Although the '193 patent refers to a lost motion "member" while the '000 patent refers to a lost motion "pocket," all parties agree that the '193 patent is a continuation of the '000 patent and that they refer to the same feature. (*See* ECF No. 97, PageID.5969.) In Figure 4 below of both patent specifications, which illustrates an exemplary ring of the bending fixture, each of the "pockets" or "members" around the ring are labeled 38. Figure 4 illustrates just the outer ring of the four-ring bending fixture so that it is easier to see the functionality. (*See* '000 Patent, col. 2, lines 7-8).

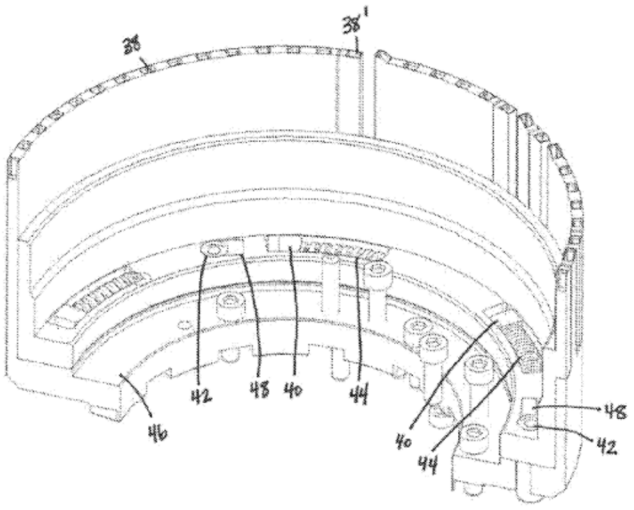

FIG. 4

In the second step of the process, the ring (which is part of the "bending fixture") rotates to bend the conductors. *Id*. The pockets of the ring are positioned to bend the conductors at different angles as the ring rotates. When the ring rotates, some of the pockets rotate with the ring

immediately, while others remain stationary at first and only begin to rotate later. As depicted in Figure 4, as the ring rotates counterclockwise, the pockets to the left and right of pocket 38' move in unison while pocket 38' remains stationary until a pin 42 rotates far enough to reach the end of the slot 48. (*See* ECF No. 75-3, PageID.1539; ECF No. 75-4, PageID.1550.) At that point, the pocket 38' that is initially stationary then begins to rotate later in the twisting process. In this preferred embodiment, pocket 38' is the "lost motion pocket" or "lost motion member." (*See* Fig. 4.) Once the full rotation process is complete, the conductors have been bent at two different angles. (The first angle is the amount that pockets 38 rotate; the second angle is the amount that pocket 38' rotates.) In other words, because the pockets to the left and right of pocket 38' move for a greater distance than the lost motion pocket 38', the conductors in those pockets will be bent at a greater angle than the conductors in the lost motion pocket that were moving for a shorter period of time. And in plain terms: because the part of the ring that holds pocket 38 moves before the part of the ring holding pocket 38', there is lost motion. The patent claims use the terms "lost motion member" ('000 patent) or "lost motion pocket" ('193 patent), and it is the meaning of these terms that the parties dispute.

The parties dispute the proper construction for a "lost motion member" or "lost motion pocket" as used in the patents at issue:

The Parties' Proposed Constructions			
Disputed Claim Term	**Found in**	**Tecnomatic's Construction**	**ATOP's Construction**
"lost motion member"	Claim 1 & 8 of the '000 Patent	A pocket or series of pockets which remain stationary during a portion of the twisting operation, allowing the conductor placed therein to be bent at an angle less than the angle of other	A follower member that is pushed by a driving member after the driving member has moved a distance relative to the follower member

"lost motion pocket"	Claim 1 of the '193 Patent	conductors which are placed in other pockets along the same circumference.	A follower pocket that is pushed by a driving pocket after the driving pocket has moved a distance relative to the follower pocket

(ECF No. 76, PageID.3162; ECF No. 77, PageID.3427; ECF No. 87, PageID.5867–5868.) The key point of dispute is whether the patents' "lost motion" function is limited to a construction in which a "driving" pocket pushes a "follower" pocket (ATOP's theory) or whether the patents are broad enough to cover a pocket/member that remains stationary for part of the twisting process and moves for only part of the twisting process, regardless of what (e.g., a "driver" pocket or actuator) causes the initially stationary pocket to move (Tecnomatic's theory).

B. The Special Master's Recommendations

The Special Master's draft report and recommendation, issued to the parties for suggestions on January 7, 2021, proposed a construction that drew closer to Tecnomatic's view:

Special Master's Draft Recommendation
"Lost Motion Member" ('000 patent): a pocket that remains stationary during a portion of the driving step and that moves in unison with other pockets during a subsequent portion of the driving step. "Lost Motion Pocket" ('193 patent): a pocket that remains stationary during a portion of the driving step and that moves in unison with other pockets during a subsequent portion of the driving step.

(ECF No. 97, PageID.5969.)

In accordance with this Court's order of reference to the Special Master, the parties were allowed to provide "suggestions" to the draft construction before the final report and recommendation. In its suggestions, ATOP disagreed with this draft construction and maintained that a "lost motion member" and "lost motion pocket" must encompass a "follower" member/pocket that is "pushed" by a "driver" member/pocket. (*See* ECF No. 97, PageID.5981.)

In support of its suggestions on the draft report and recommendation, ATOP submitted eleven new exhibits: dictionary definitions of "lost motion" (Exhibits A–E, G, I), case law discussing the meaning of "lost motion" (Exhibit F), prior art patents discussing the meaning of "lost motion" (Exhibit H, J), and a decision on appeal of a final rejection of claims in a patent application discussing the meaning of "lost motion" (Exhibit K). (ECF No. 97, PageID.5981–5982.) Tecnomatic objected to consideration of new exhibits. (*Id.* at PageID.5982.)

In his final report and recommendation issued on February 23, 2021, the Special Master recommended that the Court should not consider ATOP's new exhibits. (ECF No. 97, PageID.5982–5985.) The Case Management Order required the parties to identify all extrinsic evidence by January 28, 2020 (ECF No. 32 at PageID.518, § 4.1) and list such extrinsic evidence in the Joint Pre-Claim Construction Hearing Statement, which was filed on October 5, 2020. (*Id.* at PageID.519, § 4.1.1(b).) ATOP also did not cite these exhibits in its claim construction briefs. (*See* ECF No. 77, 78.) ATOP cited Exhibits A through K for the first time on January 21, 2021 in its suggestions to the Special Master's draft report and recommendation. (ECF No. 97, PageID.5983.)

But even without the new exhibits, ATOP's suggestions did shift the Special Master's view of "lost motion" based on intrinsic evidence. In his final report and recommendation, citing the language of the patents-at-issue, the Special Master concluded that although the construction of "lost motion" does not specifically require ATOP's construction of a "driver" member that "pushes" a "follower" member as the ring twists, nonetheless, "the language of the claims of the '000 patent and the '193 patent *do require that the movement of the lost motion member/pocket be a consequence of the rotation of a pocket member/ring.*" (ECF No. 97, PageID.5988–5989 (emphasis added).) In other words, the rotation of the ring, which rotates the first set of pockets,

eventually *causes* the movement of the lost motion member/pocket; the patent does not describe a lost motion member/pocket that moves on its own. (*See id.* at PageID.5985–5989.)

All things considered, the Special Master ultimately recommended that the Court adopt this construction:

Special Master's Final Recommendation
"Lost Motion Member" ('000 patent): a member that (i) remains stationary during a portion of the driving step, and (ii) moves in unison with other pockets during a subsequent portion of the driving step *as a consequence of rotation of the first and/or third pocket member*. "Lost Motion Pocket" ('193 patent): a pocket that (i) remains stationary during a portion of the driving step, and (ii) moves in unison with other pockets during a subsequent portion of the driving step *as a consequence of rotation of the first and/or third pocket member*.

(ECF No. 97, PageID.5989 (emphasis added).)[1]

C. The Parties' Objections

Tecnomatic now objects to the report and recommendation, arguing for a return to the Special Master's draft construction, without the phrase "as a consequence of rotation of the first and/or third pocket member." (ECF No. 101.)

ATOP objected only to the Special Master's decision not to consider the new exhibits; ATOP did not object to the recommended construction of "lost motion." (ECF No. 100.) With that background, the Court turns to the merits of the parties' objections.

[1] The Special Master noted in a footnote that the final recommendation for the construction of "lost motion member" and "lost motion pocket" was "also different from the original proposed construction in that it substitutes "member" for "pocket" to remain consistent with the terminology in claim 1 of the '000 patent." (ECF No. 97, PageID.5989 n.11.)

III. Claim Construction

In the preferred embodiment described in the patent specification, the lost motion member moves as a result of the movement of the rings. But, says Tecnomatic, the claim language is not so limiting.

A.

Tecnomatic's primary objection is that the Special Master's proposed construction fails to read the claim language as broadly as possible. (ECF No. 101, PageID.6180–6183.) Tecnomatic argues "[t]here simply is no language in these claims requiring that when 'driving the bending fixture,' the 'lost motion member' is rotated 'as a consequence of rotation of the first and/or third pocket member.'" (ECF No. 101, PageID.6180.) Tecnomatic asserts another version of this argument in its objection that the proposed construction would "re-write" the patent claims. (ECF No. 101, PageID.6187–6191.)

It is true that "the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Hill-Rom*, 755 F.3d at 1372 (quoting *Liebel-Flarsheim Co*., 358 F.3d at 906). And it is true that the patent claims do not explicitly name a causal relationship between the rotation and the lost motion member. But the patent claims also do not contain explicit language supporting Tecnomatic's proposal that the claim extends to a lost motion member that moves independently from the rotation of the rings in the bending fixture.

Claim 1 the '000 Patent and claim 1 of the '193 Patent differ slightly in wording but describe the same function and features of the lost motion member. (*See* ECF No. 75-3, PageID.1544 ('000 Patent); ECF No. 75-4, PageID.1555 ('193 Patent).) The first paragraph of claim 1 of the '000 patent describes the bending fixture (with the rings and pockets and lost motion

member). (*Id.*) The second paragraph describes the placement of the (stator adjacent to the) bending fixture. (*Id.*) The third paragraph is the action scene: it describes the rotation of the rings and the operation of the lost motion member. (*Id.*) Reading these paragraphs together supports the Special Master's claim construction.

As the third paragraph of claim 1 details in both patents, there are two consequences of driving the bending fixture so that the rings rotate. First, the conductors bend as a result of the rotation of the rings. That interdependence is not disputed; the conductors would not bend if the rings did not rotate. Second, the lost motion member rotates. The patent claims describe how the rotation of the lost motion member works. First, the '000 Patent, with the causal language emphasized:

> "*driving the bending fixture* using an automated bending station *so as to rotate the first and third of the four pocket members* through the first limited angle relative to the second and fourth of the four pocket members to simultaneously bend the free ends of the plurality of the rectangular motor winding conductors through the first limited angle, *the free ends of . . . other rectangular motor winding conductors* extending into the pockets in the lost motion members *being bent through an angle* equal to the first limited angle minus the second limited angle.

(ECF No. 75-3, PageID.1544 (emphasis added).) The text of the '193 Patent describes the same process:

> "*rotating the first and third ring through the first angle* relative to the second and fourth rings to bend the free ends of the rectangular motor winding conductors, *wherein the lost motion pocket is rotated through the second angle when the first ring is rotated through the first angle*."

(ECF No. 75-4, PageID.1555.) Again, based on this claim language where the bending of the conductors occurs because of the rotation of the rings, the movement of the lost motion member ("being bent through an angle equal to the first limited angle minus the second limited angle") should also be construed as happening as a result of the movement of the ring. *See ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003) ("[T]he context of the surrounding words

of the claim also must be considered in determining the ordinary and customary meaning of those terms."). Or as the Special Master concludes, the movement of the lost motion member is dependent on the movement of the ring: it moves "as a consequence of rotation of the first and/or third pocket member." (ECF No. 97, PageID.5989.)

Thus, considering both the claim language and the specifications, the causal relationship between the rotation and the movement of the lost motion member is "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention." *See Renishaw*, 158 F.3d at 1250.

This Court agrees with the Special Master's construction. Tecnomatic's objections do not alter the Court's reading.

B.

Tecnomatic also objects to the Special Master's finding that it is the rotation of the "first and/or third pocket member" that results in the lost motion member moving. (*Id.*) It objects that the Special Master's proposed construction cannot be correct because a "lost motion member/pocket" can be included in any of the four rotating rings, including the second and fourth members/rings. (ECF No. 101, PageID.6181.)

Tecnomatic is correct that neither claim 1 of the '000 patent nor claim 1 of the '193 patent requires the "lost motion pocket/member" be contained within any *particular* ring of the four. But that fact does not undercut the Special Master's recommended construction because the recommended construction does not require the "lost motion pocket/member" to be in a particular ring. The recommended construction states that the "lost motion member/pocket" moves in unison with other pockets as a consequence of rotation of the *first and/or third pocket member* because paragraph 3 explicitly requires that the first and third rings rotate (though it does not preclude

rotation of the second and fourth rings). But the claims do not specify *which* of the four rings/pocket members comprise the "first and/or third rings/pocket members."

Paragraph 1 of the claims describes four rings where alternate rings are rotatable through a first angle relative to the other two alternate rings. Paragraph 1 of the '193 patent generically labels the alternate rings "first ring and third ring" and "second ring and fourth ring," with the "first and third rings" being rotatable through the first angle relative to the "second and fourth rings." Paragraph 3 of the '000 patent similarly states that the "first and third" pocket members are rotated relative to the "second and fourth" pocket members. Accordingly, both claim 1 of the '193 and the '000 patents recite that the "first and third" rings/pocket members are alternative rings that move together through an angle relative to the "second and fourth" rings/pocket members. However, the claims do not specify whether the first ring is the inner-most or the outer-most ring. That is, with reference to Figure 2 (of both patents), the "first and third" rings/pocket members could be considered rings 30 and 34 or they could be considered rings 36 and 32, provided the "second and fourth" rings/pocket members were considered the other rings (i.e., rings 32 and 36 or 34 and 30). Therefore, under the recommended construction, if the lost motion member/pocket were in ring 30 and/or 34 (in Figure 2), then the "first and third" rings would be considered to be rings 30 and 34 and the "second and fourth" rings would be considered rings 32 and 36 (in Figure 2). On the other hand, if the lost motion member/pocket were in ring 32 and/or 36 (in Figure 2), then the "first and third" rings would be considered rings 36 and 32 and the "second and fourth" rings would be considered to be rings 34 and 30. Therefore, the Special

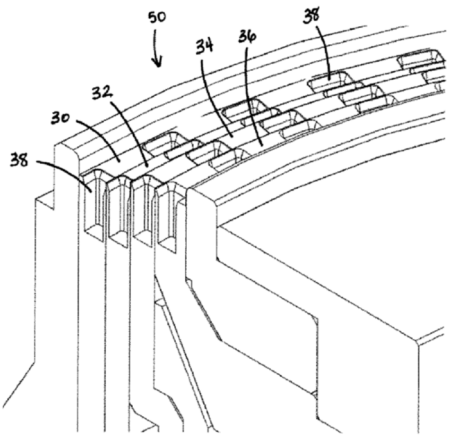

FIG. 2

Master's recommended claim construction does not limit the location of the lost motion member/pocket to any particular ring or rings within the bending fixture.

The Court, therefore, overrules Tecnomatic's objections and adopts the Special Master's proposed construction for "lost motion member" and "lost motion pocket" in the '000 Patent and the '193 Patent. (ECF No. 97, PageID.5989.)

C.

Because the intrinsic evidence—the claims themselves and the specification—unambiguously describe the scope of the patent, the intrinsic evidence is dispositive and reliance on any extrinsic evidence would be improper. *Vitronics*, 90 F.3d at 1583; *see also Sunovion*, 731 F.3d at 1276. Moreover, ATOP has raised no substantive objection to the Special Master's construction of the claim term "lost motion member." As a result, the Court need not address ATOP's objection seeking consideration of extrinsic materials. (*See* ECF No. 100.)

IV. Conclusion

For these reasons, the Court ADOPTS the Special Master's report and recommendation (ECF No. 97). Tecnomatic's Motion for Claim Construction (ECF No. 76) is GRANTED IN PART in accordance with the report and recommendation. ATOP's Motion for Claim Construction (ECF No. 77) is GRANTED IN PART in accordance with the report and recommendation.

SO ORDERED.

Dated: June 7, 2021

s/Laurie J. Michelson
LAURIE J. MICHELSON
UNITED STATES DISTRICT JUDGE